



2009-2010

Annual Report

Environment and Conservation


Newfoundland
Labrador

2010

Copies of this report are available at
www.env.gov.nl.ca/env/publications/index.html

Cover photo: Inner Gilmore Pond

Table of Contents

Message from the Minister	i
Departmental Overview	1
2009-10 Highlights	3
Shared Commitments	11
Strategic Issues	13
1. Climate Change Mitigation and Adaptation	13
2. Sustainable Development	16
3. Caribou Science and Management Strategy	18
4. Natural Areas System Plan	22
5. Safe Drinking Water	24
Financial Statement	28
Appendix I - Lines of Business	30



Message from the Minister

As the Minister of Environment and Conservation, I am pleased to submit the department's annual performance report for the fiscal year 2009-10. The report was prepared in accordance with the requirements for a category one government entity under the *Transparency and Accountability Act*. The report demonstrates how the department has performed on year two of our priority issues as identified in the departmental Strategic Plan 2008-11. As minister, I am accountable for the results described in this report.



This past year has seen new investments in our provincial parks system - five campgrounds now have electricity at select campsites and considerable work has been done to upgrade infrastructure on the T'Railway to ensure that public can safely use this park. These investments are key to creating a world-class tourism product for the people of the province.

Our Water Resources Management Division continues to shine, again drawing international attention for its work on flood forecasting. A new water resources internet portal was launched this year that allows the public to access a variety of water data, including information on the quality of drinking water. This internet application is the most advanced provincial water resources portal of its kind in Canada.

The department has also embarked on an exciting new project with the other Atlantic provinces as part of the Atlantic Climate Adaptation Solutions (ACAS) initiative. This is a two-year, \$8,000,000 project that will help local communities plan for the impacts of climate change.

I would like to take this opportunity to recognize the hard work of all the staff of the department. We have had many successes, and some challenges, over the past year and I am proud to say that our employees have shown dedication and diligence in working towards our mandate.

CHARLENE JOHNSON
Minister of Environment and Conservation



Departmental Overview

Vision

The vision of the Department of Environment and Conservation is a clean, sustainable environment and healthy, resilient ecosystems in perpetuity for the social, physical, cultural, biological and economic well-being of the province.


Mission

By March 31, 2011, the Department of Environment and Conservation will have reduced the adverse impacts of human activities on the environment to safeguard and improve the health of our ecosystems.

Mandate

The mandate of the Department of Environment and Conservation is derived from the Department of Environment and Conservation Notice, 2008 under the *Executive Council Act* on matters related to:

- the protection, enhancement and conservation of the quality of the natural environment, including water, air and soil quality;
- environmental assessment;
- the conservation, development, control, improvement and proper utilization of the water resources of the province;
- provincial lands;
- the management, preservation, control, protection and development of provincial parks, as defined in the *Provincial Parks Act*; provincial interests in all national parks established in the province by the Government of Canada; and wilderness and ecological reserves as defined in the *Wilderness and Ecological Reserves Act*;
- the management and control of measures for the protection, preservation and propagation of wildlife, including inland fish;
- the assessment, development and establishment of sustainability indicators for the sustainable development of natural resources of the province; and
- the management, protection and preservation of endangered species as defined in the *Endangered Species Act*.



Nature shot, photo credit unknown.

Lines of Business

The Department of Environment and Conservation is engaged in the following lines of business:

- land resources;
- provincial parks, ecological and wilderness reserves, natural areas, and Canadian Heritage Rivers;
- protection of wildlife and inland fish;
- coordination of environmental assessments;
- prevention of air, soil and water pollution;
- water quality, availability and management of water resources;
- climate change; and
- sustainable development and strategic science.

More specific details on the department's lines of business are found in Appendix A.

Organization and Staffing

The Department of Environment and Conservation consists of three branches: Environment, Lands and Natural Heritage. The branches are further subdivided into divisions and sections. The department also contains a Policy and Planning Division, a Sustainable Development and Strategic Science Division and a Communications Unit. The Institute of Biodiversity, Ecosystem Science and Sustainability (IBES), housed at Memorial University (Sir Wilfred Grenfell College), is an integral component of the Sustainable Development and Strategic Science Division.

The Department of Environment and Conservation's main offices are located at the Confederation Building and the Howley Building in St. John's, as well as in Deer Lake and Corner Brook. The department has regional offices in St. John's, Grand Falls-Windsor, Clarendville, Corner Brook, Gander, and Happy Valley-Goose Bay. The department is responsible for the Salmonier Nature Park, thirteen camping parks, seven day use parks, ten park reserves, one waterway park and the T'Railway Provincial Park. In addition, there are twenty wilderness and ecological reserves, three wildlife reserves, one special management area and one public reserve.

The department has a staff complement of 408 employees, which includes permanent, temporary, seasonal and contractual employees. The gender division is 267 male and 141 female. Division by region is indicated below:

Avalon Peninsula	213
Central East	30
Central West	18
Labrador	13
West Coast / N. Peninsula	120
Undefined Area	14
Total	408

2009-10 Highlights

NEWFOUNDLAND AND LABRADOR GREEN FUND

The Newfoundland and Labrador Green Fund is a \$25,000,000 fund created with provincial and federal support to fund innovative local initiatives that reduce greenhouse gas emissions in the province and increase environmental sustainability. The fund directly supports the minister's strategic direction related to climate change mitigation. To date, the NL Green Fund has approved over \$13,000,000 in projects. Over \$9,500,000 was approved during the 2009-10 fiscal year. The projects include renewable energy initiatives, research and energy efficiency projects. These projects have the potential to avert the release of approximately 170,000 tonnes annually of greenhouse gas emissions to the atmosphere, which is roughly the equivalent of removing 34,000 automobiles from our highways.

City of St. John's Cycling Master Plan

The department provided the City of St. John's with almost \$1,600,000 to assist with the implementation of their \$7,000,000 Cycling Master Plan. This plan outlines a long-term strategy to move the city towards its vision of a sustainable, multi-modal transportation system. Phase one of the project will consist of on-road painted bike lanes, installation of signs to designate bike routes, installation of biking parking facilities throughout the city, and the installation of bike racks on the fleet of 53

Metrobuses. There will also be a public education and awareness campaign to familiarize citizens about cycling safety. The project is expected to reduce CO₂ emissions by 1,900 tonnes annually.

New World Dairy

New World Dairy of St. David's received \$990,000 towards the installation of an anaerobic digester and other necessary equipment to operate a methane gas capture and utilization system. These measures will allow the farm to create a waste management solution for the manure and provide heat and electricity for their facility. The anaerobic digester is an enclosed container where the manure can be broken down by naturally occurring bacteria without being exposed to oxygen. The resulting gases, in particular methane, are then captured and can be used as an energy source. The process also produces a nutrient laden liquid that can be used as a fertilizer and a solid product that can be used as bedding for cows. This project is expected to reduce an estimated 11,090 tonnes of CO₂e emissions per year.

Brother Brennan Environmental Education Centre

The Brother Brennan Environmental Education Centre in Deer Park received \$190,000 from the Green Fund to install a wind powered energy system to replace the diesel electricity generation currently used at the site. The new system will also eliminate noise and other air pollution associated with diesel generation and will become an educational opportunity for school children. The project is expected to reduce CO₂ emissions by 20 tonnes per year.

Corner Brook Administrative Building

The City of Corner Brook received almost \$900,000 to help make its new administrative building an environmentally-friendly structure. The new building will be certified silver under the Leadership in Energy and Environmental Design (LEED) green building rating system. The new building will be home to the city hall, public library and museum and archives. The building design incorporates various environmental features such as a green roof and a Window on the World (WOW) performance system. A green roof is one that is planted with various types of vegetation to provide natural air conditioning for the building, includes a water reservoir to reduce run off and provides a habit for birds and an outdoor leisure space for people. The WOW system publicly displays the building's energy performance in a measurable way and permits individuals to learn about energy savings. Energy conservation of the building will exceed the National Energy Code for Buildings by 25%. The estimated annual reduction of CO₂ is 499 tonnes.

Water Resources Portal

Drinking water safety and information sharing with the public remain a top priority for the department. A new Provincial Government internet application that allows public access to a variety of water resources data, including information on the quality of drinking water, was launched on March 24 at the 2010 Clean and Safe Drinking Water Workshop in Gander. The Newfoundland and Labrador Water Resources Portal will enhance the sharing of information with municipalities, industry, provincial and federal government departments, as well as numerous other stakeholders. It provides access to a variety of water resources geographic information including public water supply area boundaries, drinking water quality sampling results, hydrometric stations and real-time stream flow graphs, and the location of dams and sewage outfalls.

This internet application is the most advanced provincial water resources portal of its kind in Canada. The portal was developed with support from GeoConnections, a national partnership program which promotes on-demand access to geographic information. Other partners who contributed to this project are the City of Corner Brook, the Town of Gander, the Steady Brook Watershed Management Committee, Model Forest of Newfoundland and Labrador and Memorial University of Newfoundland. Professional geographic information systems (GIS) services were provided by a local company, Tamarack Geographic Technologies.



Department of Environment and Conservation

Parks and Natural Areas

Occupancy rates for the 2009 camping season saw a marked increase with the number of registered camper nights up by 14.7 % over the 2008 season. In 2009, approximately 190,000 people visited our provincial camping parks with 90% of these visitors being from Newfoundland and Labrador. Over 9,000 reservations were made using the Campsite Reservation Service, which represented an increase of 674 reservations over 2008. In 2009, 78% of the reservations were web-based while the remaining 22% were processed via our toll-free telephone number.

The Main River Waterway Provincial Park (152 km²) was established under the Provincial Parks Act and the Main River Special Management Area (49 km²) was created under the Lands Act on July 17, 2009. This park is the first waterway provincial park for the province. Changes were made to the Provincial Parks Regulations to permit snowmobiling in the Main River Water Provincial Park and to require permits for scientific research and helicopter access in provincial parks.

The Lawn Islands Archipelago Provisional Ecological Reserve was created in July 2009. The islands are home to thousands of seabirds, in particular the Manx Shearwater. One of the islands in the archipelago supports the only known colony of this species in North America. Provisional status grants the area interim protection under the *Wilderness and Ecological Reserve Act* until a full site assessment and public consultations are complete and a decision made about permanent status.

In February 2010, the Minister of Environment and Conservation and the federal Minister of Environment signed a Memorandum of Understanding to outline the next steps that the two governments will take to establish a national park reserve in the Mealy Mountains area of Labrador. The park reserve will protect approximately 10,700 km². The Provincial Government also announced its intention to establish a waterway provincial park along the Eagle River, adjacent to the national park reserve. The waterway park will protect another 3,000 km².

The national park reserve in the Mealy Mountains will protect a representative example of Canada's East Coast Boreal Region. The waterway park will contain examples of both boreal forest and string bog natural regions and help to ensure conservation of the Eagle River watershed.



Proposed National Park Reserve in the Mealy Mountains
Gary Pittman, Parks Canada

In April 2009, Mistaken Point Ecological Reserve was expanded in response to new fossil discoveries directly adjacent to the existing reserve. The expansion doubles the size of the reserve to 5.7 km².

The year 2009 also saw the completion of a project to cast the entire "E" surface in Mistaken Point Ecological Reserve. The "E" surface is one bedding plane that holds a significant number of fossils that are available for public viewing. This project was undertaken by the department in partnership with the Royal Ontario Museum, Johnson GeoCentre, Queen's University and Oxford University.

Thirty scientific research permits were issued to external researchers for projects in wilderness and ecological reserves.

Stewardship Agreements

In November 2009, coastal stewardship agreements were signed with the towns of Mary's Harbour, Red Bay and St Lewis at public signing ceremonies in Mary's Harbour and Red Bay. These agreements will place some 3806 hectares of coastal habitat and associated offshore islands in St Peter's Bay under conservation.

A stewardship agreement was negotiated and signed with the Town of Port au Choix to secure 8.7 hectares of Limestone barrens suitable and occupied habitat of the Fernald's Braya found within the town's municipal boundaries. The signing ceremony was held in September 2009 at St. Theresa's Elementary involving some 130 students, teachers, and town residents.

New Format for Salmon Tags

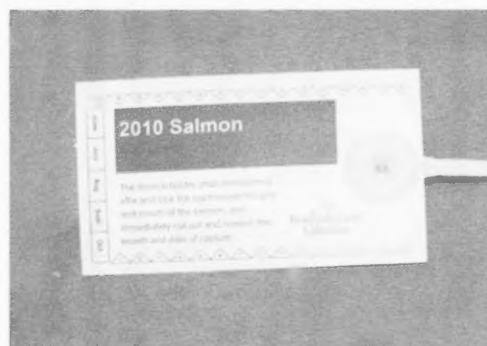
In response to a growing concern of illegal use (reuse) of Atlantic salmon tags in previous years, a format for new time-stamped tags was developed in 2009. It is believed that the introduction of these new tags, which requires the angler to immediately affix and lock the tag and cut out the date, will substantially reduce tag reuse. The new tags are required for the 2010 angling season.



Casting the "E" surface, Tina Leonard.



Port au Choix Stewardship Agreement signing ceremony. Featured from L to R: Wally Young (MHA-St Barbe), Dulcie House (Limestone Barrens Habitat Stewardship Program), Carolyn Lavers (Commissioner- Town of Port au Choix), Beverly Plowman (Principal- St Theresa's Elementary)



New Salmon Tag for 2010, Parks and Natural Areas Division

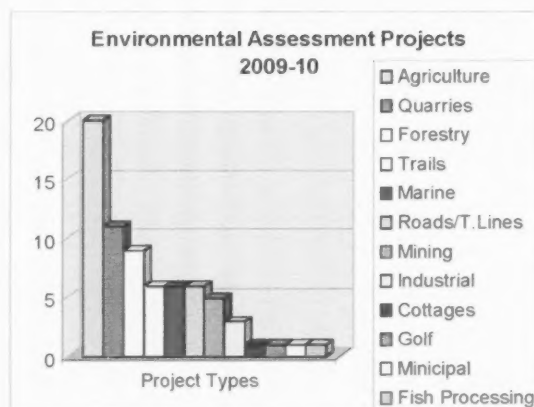
Environmental Assessment

In 2009-10, large scale resource development projects (mining and hydro) in Labrador continued. These projects included extensive consulting with aboriginal groups and governments on environmental issues pertaining to their land claims. Also, sixteen cranberry farms were assessed on the Island with impacts to wetlands/bogs and waterfowl being the focus of these projects.

Each year, the department is consulted by other agencies and proponents on whether the Environmental Assessment Regulations apply to a particular project. Staff review the proposals and a determination is given in writing for each referral. The number of referral requests and responses for 2009-10 was 251.

Project proposals subject to review for potential environmental effects are examined by over 26 government agencies and are also available for comment by the public. The results and comments are analyzed by departmental staff and recommendations are made to the minister. A 45 - day review period applies.

In 2009-10, 70 project proposals were registered. Environmental Preview Reports (EPRs) are required by the minister after an environmental assessment review if the registration document has insufficient information to allow agencies to



give informed advice to the minister, or if the public comments have pointed out an area of concern upon which the minister wishes the proponent to elaborate. There were two EPRs ordered by the minister in 2009-10 - the St. Lawrence Fluorspar Mine Reactivation Project and the Incinerator Road Protein Conversion Plant in Foxtrap. Work continued on the Bloom Lake Railway Project in western Labrador, Parsons Pond Oil Exploration Access Road, and the Portland Creek Agricultural Land Development. Also, the Old Pelican Chitin Plant EPR review was completed last year.

Environmental Impact Statements (EISs) are required by the minister mainly if significant negative effects are predicted or there is significant public concern with a particular proposal. There was one undertaking registered in 2009-10 for which the minister ordered an EIS to be prepared. This was for the Salmonier Pond access road and Atlantic Salmon Nursery. Other work continued on the Schefferville Area Iron Ore Mine, Elross Lake Area Iron Ore Mine, Goose Bay Supersonic Flight Training, and the Labrador - Island Electrical Transmission Link. Also the Joint Review Panel continued to review the EIS for the Lower Churchill River Hydroelectric Generation Project.



Wind Turbines at Fermeuse.
Paul Carter, Environmental Assessment Division.

Hunter Education

This year marks the 15th anniversary for the Firearms Safety/Hunter Education Program in our province. The program is designed to teach residents how to practice safe and responsible hunting of our wildlife resources and meets compulsory certification training requirements necessary to obtain resident hunting license. Over 75,000 students have participated in courses throughout Newfoundland and Labrador since it began in 1995 and is delivered by 80 instructors certified by the department's Wildlife Division.



In August 2009, the department hosted a Firearms Safety/Hunter Education Instructor Conference in Corner Brook to recognize the contributions of provincial instructors, provide updates on information regarding hunting and firearms laws, learn new training techniques and share ideas. Support to host the conference was shared by this department and the Royal Canadian Mounted Police - Canada Firearms Program.

The department hosted 36 seminars/workshops specifically designed to increase public knowledge and awareness of coyote and black bear management in the Province. The workshops had 2100 participants in fourteen communities. Increasing public participation and involvement in responsible hunting and trapping of coyotes and black bears is one of the objectives outlined in Government's Caribou Strategy.

The department's Wildlife Division sponsored the 2009 Atlantic Provinces Youth Hunting and Fishing Exchange Program in support of promoting our heritage and culture to our province's youth. Newfoundland and Labrador winner, 16 year old James Humby and his dad of Portugal Cove, won a trip to New Brunswick to hunt upland game in the fall of 2009. Our department and its partnering organizations hosted New Brunswick resident thirteen year old Kendra Ferris and her dad on a salmon fishing trip on the west coast's Humber River.



Photos Clockwise from Top:

1. Willow ptarmigan (partridge), Mike McGrath.
2. Hunter education course, Nathan Spence.
3. Hunters, Nathan Spence.

Salmonier Nature Park

Summer 2009 was one of the busiest visitation seasons for Salmonier Nature Park with approximately 45,000 people coming through the gates between June 1 and mid-October. This figure represents a 25% increase over the previous year and the 5th highest visitation rate since the Park opened in 1977.

In partnership with the Friends of Salmonier Nature Park, the park delivered two Becoming an Outdoors Woman workshops in Newfoundland. One held in Corner Brook in September proved to be very popular and had a long waiting list.

The park completed a new multi-species enclosure for spruce grouse and snowshoe hare.

Salmonier Nature Park and the Parks and Natural Areas Division held a joint training session for seasonal interpreters and students at Notre Dame Provincial Park near Lewisporte.



Scenes from Salmonier Nature Park, photo credits unknown.

Conversion of Aerial Photo Library

The department has switched its photography operations from film based to digital based, thus acquiring images directly from digital cameras. In an effort to keep pace with increasing requests for information and to provide better services to our clients, the department initiated a new project to convert the air photo library from a film-based library to a digital library. The project is expected to be a multi-year project as there are approximately 500,000 images in the library that will have to be converted. The images are available to the public and range from the 1940s to the present.

In 2009-10, the Department issued grants for 2044.24 ha of Crown land at a value of over \$4.6 million.

Crown Lands Administration

In the 2009-2010 fiscal year, applications for Crown land increased by 15% over the previous year. There was also an increase of 13% in Crown titles issued for fiscal year 2009-10. These increases in applications, and issued titles resulted in total revenues of \$8.7 million dollars. This was an increase of 24% over the previous fiscal year.



Cottage Development Program

In the past fiscal year, the department developed and allocated 21 cottage lots at Burnt Berry Pond, 19 lots at Joe's Lake and 19 lots at Paul's Lake. The department continued planning and development work for numerous other areas including: Green Island Lake, Birch Lake, Butt's Pond and Paddy's Pond.



Community Mapping

In 2009-2010, the Surveys and Mapping Division of the department issued three community mapping contracts at a scale of 1:2,500 to produce 152 new maps. The division also issued a single contract to fly 2220 line kilometers of 55 cm color digital photography on the west coast of the island of Newfoundland. The division also issued four contracts to produce a vector water layer, a digital elevation model, and orthorectified photography for parts of the Avalon Peninsula and the Great Northern Peninsula. All of this information is available for public distribution.

Photos L to R:
 • Cottage, photo credit unknown.
 • Lands Branch registry, Steven Barnable.

Shared Commitments

Infrastructure Renewal

The Department of Environment and Conservation partners with other departments on the Provincial Government's key commitments. These shared commitments reflect a desired outcome that requires action by multiple entities.

In line with government's commitment to infrastructure renewal, the department is working towards improvements in provincial parks, including the T'Railway.

The department continued to implement the Parks Renewal Strategy which focuses on improvements that are designed to make the provincial parks more attractive, encourage increased usage, and provide a wider range of services and amenities. All provincial camping parks are now equipped with modern comfort stations, hot and cold running water, and showers and flush toilet facilities. In 2009-10, the focus was on providing electricity to a number of campsites in the following provincial parks: La Manche, Notre Dame, Dildo Run, Frenchman's Cove and J. T. Cheeseman.

Expenditures for the T'Railway Provincial Park in fiscal 2009/10 were approximately \$2,100,000. Work included the removal of Crabbe's River Bridge, the removal and replacement of bridges at Middle Brook and Morris Brook, the removal and replacement of Codroy North Branch, the removal of an old bridge at Bear Cove, and repairs to Robinsons East and Robinsons West bridges. Approximately \$500,000 of this funding was directed towards vegetation removal, ditching, culvert replacement, and washout repair on various sections of the T'Railway Provincial Park across the island. The department worked closely with engineers and other officials from the Department of Transportation and Works in the successful delivery of the T'Railway Provincial Park infrastructure program.



Robinsons East bridge, Dennis Tilley.

Northern Strategic Plan

The Department of Labrador and Aboriginal Affairs is lead on government's Northern Strategic Plan. In support of this initiative, Environment and Conservation continued work in Labrador on climate change, wildlife management and conservation planning.

In February, 2010, the department met in Wabush with representatives of the Combined Council of Labrador to discuss climate change adaptation in the region.

The department's Wildlife Division began a research project on assessing predator-prey dynamics in Southern Labrador. This project was designed to look at the interaction between predators, such as wolves and lynx, and moose and caribou.

The Wildlife Division entered its third sampling year for the Northern Labrador Climate Change Study. Three lakes were sampled during this season. Data collection and analysis continues. Archival tags were collected that had been implanted in lake trout the previous year.

The Wildlife Division also sampled four lakes along Phase III of the Labrador Highway. In addition, the Outfitters Logbook Program, designed to monitor the health of sport fisheries in the Eagle River Watershed, was continued and expanded.

The Parks and Natural Areas Division entered its second year partnering with the Nature Conservancy of Canada to consolidate biophysical data from Labrador in partnership with numerous stakeholders to guide the preparation of a Conservation Blueprint for Labrador and support conservation planning in Labrador as part of the Natural Areas System Plan.

Waste Management

Waste management was identified in the 2008-11 Strategic Plan as a strategic direction for the minister. With a view to enhancing the management of solid waste in the province, the department of Environment and Conservation is a partner along with the Department of Government Services, the Department of Municipal Affairs and the Multi-Materials Stewardship Board in the implementation of the Waste Management Strategy with primary responsibility for the environmental standards. To that effect, the department has spent the past year revising the standards, working with regions to interpret the standards and assessing compliance with the standards. The department has also begun drafting certificates of approval for the operations of Eastern Waste Management, Central Waste Management and Labrador West Waste Management. The department has also begun developing standards for interim waste management sites.

The department closed 10 incinerators in 2009-10. The closure of eight more will coincide with implementation of regional initiatives. Five remote sites are slated for closure in 2011-12.

Strategic Issues

Issue 1: Climate Change Mitigation and Adaptation

2009-10 Objective

By March 31, 2010, the Department of Environment and Conservation will have released a provincial climate change adaptation strategy.

Measure

Release of a Newfoundland and Labrador Adaptation Plan.

<i>Indicators</i>	<i>Results</i>
Adaptation plan released.	Ongoing. A work plan for Atlantic Climate Adaptation Solutions initiative has been developed.
Adaptation issues identified for Labrador, if deemed appropriate.	Ongoing. In 2009-10, the department continued to work with partners to identify and further elaborate adaptation issues in this region.

Discussion of Results

Adaptation Plan / Strategy

The Office of Climate Change, Energy Efficiency and Emissions Trading (OCCEEET) was created in 2009 and is now responsible for policy and strategy developments with regards to climate change and the department works collaboratively with OCCEEET to achieve this mandate.

The department has been actively engaged in the development of a regional adaptation plan that is expected to yield very positive results in terms of increasing adaptive capacity in the province.

The regional adaptation initiative stems from the Atlantic Adaptation Strategy that was agreed to by the Council of Atlantic Environment Ministers in 2008. A joint Letter of Intent and a proposal was

submitted by the four Atlantic provinces to Natural Resources Canada for cost-shared funding under the federal Regional Adaptation Collaborative (RAC) Program.

The resulting Atlantic Climate Adaptation Solutions (ACAS) initiative is a two year \$8 million project (over \$4 million in cash/kind from the four Atlantic Provinces) aimed primarily at helping municipalities prepare for the potential impacts of climate change. Newfoundland and Labrador's contribution is about 25% or \$500,000 for each of the two years.

Given the collaborative nature of the ACAS initiative, the department felt that participation in this program would fulfill the objective originally envisioned for the release of a stand alone adaptation plan and would in fact be a better mechanism at this time for increasing adaptive capacity in the province. The pooled resources increase the benefit to Newfoundland and Labrador in terms of the development of more robust projects and the sharing of knowledge and expertise across the region.

Environment and Conservation is the lead provincial department on this initiative with input from Municipal Affairs, Natural Resources, Transportation and Works, and the Rural Secretariat. An adaptation coordinator, who works out of Environment and Conservation, has been hired to oversee the projects throughout the province.

The Newfoundland and Labrador projects under in the ACAS initiative include:

- An inland waters flood risk analysis;
- Coastal risk and vulnerability assessments;
- Community risk and vulnerability assessments;
- A community climate change adaptation toolkit;
- An infrastructure assessment;
- Climactic forecasting to 2100;
- Flood risk and vulnerability mapping;
- Assessment of groundwater resources; and
- Engagement of professional associations.

Adaptation in Labrador

The development of an adaptation strategy for northern Labrador as outlined in government's Northern Strategic Plan will also be the responsibility of OCCEEET. The Department of Environment and Conservation continues however to be active in adaptation work in Labrador and this work will feed into any strategy to be developed by OCCEEET. Since the local academic community is already actively engaged in identifying climate change impacts and adaptation issues in Labrador, the department is taking the view that it is appropriate to collaborate with partners on ongoing research.

The department previously partnered with the Labrador Highlands Research Group of Memorial University to hold a Labrador climate change conference. The conference was a great success and subsequently a report was compiled that included ten priorities for further action. Over the past year, the department provided funding for actions on two of these priorities. The first was the development of a database of climate change research in Labrador. This database is housed on the Labrador Highlands Research Group website, accessible at <http://www.mun.ca/geog/lhrg/> The second activity for which the

Department provided funding was a multi-year research project to engage communities in Labrador.

2010-11 Objective

By March 31, 2011, the department will have begun implementation of the adaptation strategy.

The department will be implementing projects under the ACAS initiative. Indicators based on implementation of this initiative are outlined below.

Measure

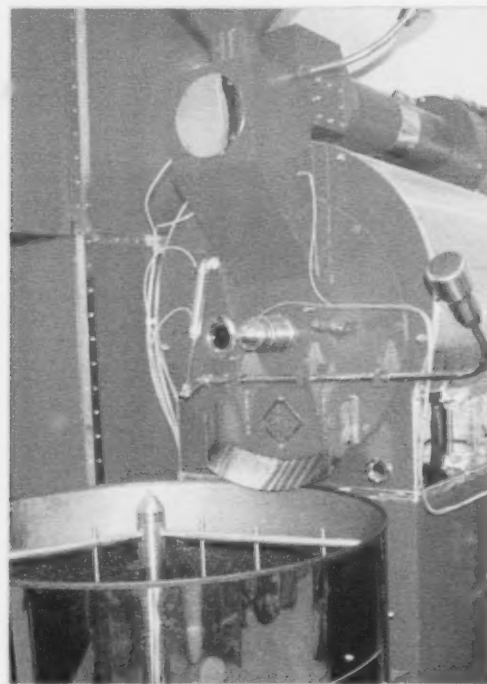
Implementation of adaptation projects.

Indicators

- Adaptation projects funded for community vulnerability assessments and climate forecasting.
- Draft flood risk model prepared.
- Professional associations engaged.
- Community meetings held related to assessing climate change vulnerabilities.



Photos L to R, Projects funded under the NL Green Fund:
• Wind turbine at the Brother Brennan Environmental Centre, Mike Carroll.
• High efficiency coffee roaster at Jumping Bean Coffee Inc., Mike Carroll.



Issue 2: Sustainable Development

2009-10 Objective

By March 31, 2010, the Department of Environment and Conservation will have prepared a Strategic Environmental Management Plan.

Measure

Strategic Environmental Management Plan produced.

<i>Indicators</i>	<i>Results</i>
Interdepartmental Committee on Sustainable Development established.	Committee to be established upon proclamation of the Act.
Draft outline circulated to committee.	Outline completed; to be circulated upon establishment of the committee.
SEMP drafted.	SEMP to be prepared as first priority when committee established.

Discussion of Results

Due to the complex nature of sustainable development and the various overlapping interests of stakeholders associated with sustainability, the *Sustainable Development Act* has not yet been proclaimed. While the department cannot report on the indicators as specified, work continues on the sustainable development initiative, most notably in the areas of research and policy. Environment and Conservation is engaged with other departments and agencies (Forestry, Agrifoods, Fisheries and Aquaculture) to discuss potential solutions to a variety of sustainability-related issues, and has begun the development of an Integrated Sustainability Model to address questions and conflicts that arise in various sectors.

2010-11 Objective

By March 31, 2011, the department will have developed sustainability indicators for the province.

The department is in a position to partially meet this objective by March 31, 2011. The preparation of a statement of indicators on the state and use of the province's natural resources, and the preparation of a provincial sustainability report have been researched and preliminary work has been completed. In absence of proclamation of the Act, the department will move forward as follows:

In 2010/2011, the Department of Environment and Conservation will continue to utilize the Integrated Sustainability Model on a multi-sectoral basis, which will be broadly applied to government policies and programs. Work will continue on a high-level environmental scan of departmental sustainability issues and will produce an outline of major provincial sustainability issues and concerns. Associated departmental working groups will be engaged, where appropriate, in order to develop the necessary content. In order to communicate this approach, and to explain the role of the department within this process, the department will conduct a series of interdepartmental Sustainability Workshops, explaining the utility and applicability of the Model, and the role of the Sustainable Development and Strategic Science branch in the continued implementation of the sustainability initiative.

Measure

Implementation of Integrated Sustainability Model.

Indicators

- Utilization of Integrated Sustainability Model and engagement of Internal Working Groups.
- Draft Statement of Sustainability Issues and Concerns prepared.
- Internal Workshops on Sustainability and the Integrated Sustainability Model conducted.



Robert's Arm Public Water Supply Area, Annette Tobin.

Issue 3: Caribou Science and Management Strategy

The Caribou Science and Management Strategy began in 2008 as a response to the drastic decline of the caribou resource on the Island in recent years. The strategy has the goals of improving scientific understanding of caribou ecology and assessing the feasibility and efficacy of predator reduction to improve calf survival. The strategy encompasses wildlife research from across the Island but is primarily focused on three study areas: Northern Peninsula, La Poile and Middle Ridge.

2009-10 Objective

By March 31, 2010, the Department of Environment and Conservation will have implemented predator reduction strategies in two study areas and commenced evaluation studies to ascertain their effects.

Measure 1

Implementation of predator reduction strategies in two study areas.



Indicators

Finalize predator reduction strategies in two study areas.

Logistical and implementation plan completed.

Results

Achieved. Predator reduction strategies completed.

Achieved. Logistical requirements identified and implementation plan completed.

Measure 2

Evaluation studies undertaken to study the effects of the predator reduction strategies.

Indicators

Appropriate scientific monitoring and studies continued in study areas.

Number of individuals of each predator species in experimental sites.

Results

Achieved. Scientific monitoring and studies continued in the study areas. Implementation of predator reduction activities during the 2010-11 calving season is required to assess and monitor effectiveness.

Partially achieved. The refinement of predator densities and relative abundance of predators is an ongoing task throughout the duration of the Caribou Strategy. The number of predators captured and collared is outlined in the following section.

Discussion of Results

Predator reduction

"Predator reduction strategies" refer to the activities related to the preparation, evaluation and determination of the best approach to predator management. These strategies include activities that the department will use to manage the levels of predators in key areas for caribou. Examples of these activities could include a general cull, diversionary feeding of predators to keep them away from caribou populations and measures to ensure enhanced hunting and trapping of the predators, such as provision of incentives to hunters, changes to the hunting seasons, and enhanced hunter education.

In order to determine the most appropriate predator reduction activities, the department had to consider a number of factors including study areas (location, access), predator density information, stakeholder uses and potential conflicts. This is a complex and multi-faceted process with many aspects which are subject to change during the course of these activities. Ongoing



Caribou, Eugene Ball.

assessment, planning and finalization of the strategy continued during the 2009-10 timeframe. The department will be implementing components of the strategy throughout fiscal 2010-11.

Evaluation

The evaluation of the effectiveness of the predator reduction strategies is an ongoing task. This evaluation requires the establishment of baselines and trends and the department has been involved in ongoing work which contributes to this.

Baseline information on predators has been obtained through radio-collaring of black bear and coyote; collection of data to support estimates of predator density in caribou calving areas; and monitoring of radio-collared calves to determine cause, rate, and timing of mortality. Predators were fitted with GPS collars which collect data continuously (every 2 to 12 hours depending on the time of year). Monitoring flights and on-the-ground work were then conducted to download collar data. In 2009-10, these flights occurred primarily in May, November and March. The department also utilized a fixed-wing aircraft to fly transects to ensure and support full coverage of all areas potentially used by predators.

Breakdown of predators captured
and collared 2009-10

	Middle Ridge	Northern Peninsula	La Poile
Bear	15	15	16
Coyote	14	14	13
Lynx	1	5	5

No reliable indices of black bear abundance exist for populations in this province; therefore, the department began work in 2009-10 to establish a Black Bear Population Index. This index would provide reliable data upon which to establish regional population estimates that would, in turn, assist in the study of predation on caribou calves and the general management of the black bear species. Hair snagging stations were established at sites on the Northern Peninsula, Baie Verte and Bonavista. Samples were collected and then sent to Memorial University for genetic analysis.

In addition to the work being done on predators, the department continues to collect data on the Island's caribou herds. The department began a survey to update the population status of caribou herds in Middle Ridge and Mount Peyton areas. Classification surveys were conducted in the Fall to provide updated information on recruitment rates and adult sex ratios. These surveys provide the biological information that is required for the department to establish annual quota levels and for modeling future populations. Research was also conducted to determine the land cover associations for caribou during the rutting, winter and calving seasons.

2010-11 Objective

By March 31, 2011, the department will have initiated the implementation of science and wildlife management activities designed to assist in the long-term sustainability of the caribou resource.

Measure

Implementation of science and wildlife management activities initiated.

Indicators

- Diversionary feeding of predators during calving season evaluated.
- Public engagement and information sessions planned.
- Continued evaluation of relative predator density estimates.
- Completion of report on caribou abundance, age structure and harvest patterns.
- Completion of calf mortality summary report.
- Preparation of status update on Caribou Strategy.

The department intends to continue its predator management activities in 2010-11. The indicators listed here relate to evaluation of techniques that can be used to manage predator populations. Evaluation of these techniques will improve the department's knowledge from which decisions about sustainable management of all species (caribou, black bear, coyote) can be made.

These studies outlined above are crucial for determining not only the current status of interactions between predators and prey, but to also be able to determine what effect interventions may have. Without this data, there is no way to evaluate the validity and effectiveness of interventions; this approach is crucial for managing and enhancing the long-term sustainability of the Island caribou.

Issue 4: Natural Areas Systems Plan

2009-10 Objective

By March 31, 2010, the Department of Environment and Conservation will have completed consultations on the draft Natural Areas System Plan and prepared a proceedings document.

Measure 1

Draft Natural Areas System Plan document prepared for internal review.

Indicators

Draft Natural Areas System Plan document prepared for internal review.

Results

In progress.

Measure 2

Conduct consultations on the Natural Areas System Plan draft.

Indicators

Public discussion document prepared

Consultations complete.

Proceedings document prepared for internal review.

Results

In progress.

Will begin when public discussion document prepared.

Will begin when consultations completed.

Discussion of Results

The development of a Natural Areas System Plan is progressing. By 2010, the department had intended to have a draft plan in place for public consultation. However, the department has had to focus its efforts almost entirely on determining the most suitable study areas for candidate reserves. Study areas are meant to represent the province's natural regions and specific biological features present in these regions. In some study areas, a number of alternate areas and boundary modifications have had to be considered.

In 2009-10, the department reached a significant milestone in that it was able to finalize a suite of 24 candidate reserves for the Island. The determination of study areas in Labrador has been further delayed partially due to the ongoing land claims in that area.

The public discussion document is not yet ready for release due to the extensive process involved in finalizing the study areas.

2010-11 Objective

By March 31, 2011, the department will have released a final Natural Areas System Plan and Implementation Strategy.

The department will continue with the development of the Natural Areas System Plan, but it is clear that the department will not be in a position to meet the 2010-11 Objective as stated in the 2008-11 Strategic Plan. Instead, the department will prepare a discussion document in support of the Natural Areas System Plan.

Measure

Natural Areas System Plan discussion document prepared.

Indicators

- Draft Natural Areas System Plan document for internal review.
- Draft public discussion document prepared.
- Communications Plan developed.



Nature shot, photo credit unknown.

Issue 4: Safe Drinking Water

2009-10 Objective

By March 31, 2010, the Department of Environment and Conservation will have improved drinking water available in 60 additional communities with populations less than 500.

Measure

Improved drinking water available.

<i>Indicators</i>	<i>Results</i>
Number of units installed.	No additional potable water dispensing units (PWDUs) have been installed in 2009-10. The tenders for construction of approximately 25 PWDUs are expected to be issued in the fall of 2010.
Other corrective measures taken.	<p>Study undertaken on performance evaluation of potable water dispensing units will inform design of new units.</p> <p>Study undertaken on operation and maintenance of drinking water infrastructure and how this impacts on drinking water quality.</p> <p>40 operator education seminars conducted.</p> <p>208 hands-on training sessions delivered part of the Operator Training Program.</p> <p>Best management practices developed for control of disinfection by-products.</p>

Discussion of Results

Potable Drinking Water Dispensing Units

The Drinking Water Safety Initiative (DWSI) was announced in 2008 as a joint effort of this department and Municipal Affairs. Environment and Conservation provides technical support to the project and Municipal Affairs provides funding for infrastructure investments. The initiative was to develop a comprehensive overview of drinking water quality issues in communities and develop a sustainable plan

of action to deal with those issues. The initiative was intended to focus initially on communities of less than 500 people and a significant component was the installation of Potable Water Dispensing Units (PWDUs). These units are small-scale water treatment plants where residents can come to fill their containers for drinking water as needed.

The installation of PWDUs has not moved along as quickly as originally planned, primarily due to a difficulty in engaging communities. Government requires that communities be active participants in the process to make improvements to their drinking water systems. Communities throughout this province have varying levels



Black Tickle potable water dispensing unit, Christa Ramsay.

of technical ability and financial resources needed to participate fully. Although the Provincial Government has invited over 200 towns and Local Service Districts around the province to make application for these PWDUs, only 50 communities have actually applied. Municipal Affairs engaged an external engineering consultant to evaluate applications received from communities to determine the suitability of PWDU technology to address each community's drinking water quality issues. The consultant also developed a concept design and the terms of reference for a Request for Proposals to select the treatment technology. After review of the applications and further discussions with the communities approximately 25 are now slated for installation of a PWDU.

In 2010-2011, it is expected that Municipal Affairs will issue a Request for Proposals and select the treatment technology. Municipal Affairs also expects to proceed with a PWDU pilot project in the Town of Whiteway. The results of this pilot will inform the requirements and costs for the communities for which PWDU technology has been deemed to be suitable and Municipal Affairs expects that tenders will be issued in 2010-11 to construct the PWDU buildings and deploy the technology in the communities in this group that choose to proceed with the projects.

The department continues to view PWDUs as an important mechanism for improving drinking water in rural communities and will continue to promote their use where possible.

Other Corrective Measures

Corrective measures for drinking water quality improvement fall into two categories: infrastructure improvement and operational improvement. The PWDU initiative dealt with the first category, while the studies and activities described below fall into the second category.

The department commissioned two studies in 2009-10 that will assist in improving the drinking water in rural areas:

- Study on Performance Evaluation of Existing Potable Water Dispensing Units and

Recommendations for Design and Operational Guidelines.

- Study on Operation and Maintenance of Drinking Water Infrastructure in Newfoundland and Labrador.

The results from the first study will be used to inform decisions about the design of new units. The study is designed to conduct performance monitoring on existing PWDUs located at Black Tickle-Domino, Buchans, Burnt Islands, Howley, Ramea and St. Lawrence to ensure that post-treatment water quality meets the Guidelines for Canadian Drinking Water. It will look at the conditions of existing PWDUs and identify problems or issues that have been experienced. It will also address local capacity to operate and maintain the PWDUs and identify alternative options for operation and maintenance. A final report was received in May 2010.

The second study will provide an overview of the operation and maintenance of drinking water systems in the province and how this impacts upon the infrastructure itself as well as drinking water quality. The study will identify the challenges for effective operation and maintenance of drinking water systems in the province, identify differences in practices between municipalities and local service districts, provide recommendations for improvements and identify areas of cooperation between communities, government and the private sector. The final report for this study is also expected in fall 2010.

Given the important role that communities themselves play in maintaining water quality, the department places great emphasis on ensuring that local system operators are properly trained. In 2009-10 the two Operator Education, Training and Certification (OETC) Coordinators conducted 40 one-day, classroom style Operator Education Seminars. The topics covered were:

- Water Distribution System Basics;
- Water System Hydraulics;
- Water Quality Issues;
- Wastewater Collection System Operation; and
- Proper Handling of Chlorine and Chlorine Containers.

The department also offers on-site training for operators as part of the Operator Training Program. Using the department's Mobile Training Units, three operator trainers conducted 208 on site sessions around the province. These sessions are of two and three-hour durations and cover topics such as disinfection basics; hypochlorination; gas chlorination; hydrant maintenance; control valve (PRV) operation and maintenance; pipe tapping procedures; leak detection training and flushing preparation.

2010-11 Objective

By March 31, 2011, the department will have improved drinking water available in the remaining communities with populations less than 500.

Measure

Improved drinking water available.

Indicators

- Permits issued to construct and operate new PWDUs (or equivalent technologies).
- Drinking water quality monitored and analyzed.
- Training delivered to PWDU operators.
- Policy and education documents prepared on PWDUs.

Financial Statement

Expenditure and revenue figures included in this document are based on public information provided in the Report on the Program Expenditures and Revenues of the Consolidated Revenue Fund for Fiscal Year Ended 31 March 2010 (Unaudited).

<i>Executive and Support Services</i>	Estimates		
	Actual \$	Amended \$	Original \$
Minister's Office	277,495	296,100	296,100
<i>General Administration</i>			
Executive Support	1,047,530	1,098,700	1,061,500
Administrative Support	1,063,660	1,112,900	749,400
Revenue - Provincial	(70,865)	-	-
Policy Development and Planning	10,764,162	15,886,100	18,697,600
Revenue - Federal	(15,595,899)	(16,096,000)	(16,096,000)
Revenue - Provincial	-	(167,000)	(167,000)
Sustainable Development and Strategic Science	3,733,362	3,786,500	2,701,200
Institute for Biodiversity and Ecosystem Science	707,100	777,600	814,600
Administrative Support - Capital	1,465,310	1,547,700	1,173,000
Total: General Administration	3,114,360	7,946,500	8,934,300
<i>Environmental Management and Control</i>			
Pollution Prevention	3,872,000	4,277,400	4,993,600
Revenue - Provincial	(129,303)	(273,500)	(273,500)
Water Resources Management	4,032,636	4,120,900	4,713,000
Revenue - Federal	(24,000)	(200,000)	(200,000)
Revenue - Provincial	(561,388)	(558,200)	(558,200)
Water Quality Agreement	1,010,131	1,022,800	1,058,000
Revenue - Federal	(105,181)	(185,000)	(185,000)
Revenue - Provincial	(382,031)	(446,100)	(446,100)
Environmental Assessment	1,548,579	1,815,900	1,780,500
Revenue - Federal	-	(50,000)	(50,000)
Revenue - Provincial	(91,203)	(220,000)	(220,000)
Total: Environmental Management and Control	9,170,240	9,304,200	10,612,300

Lands

	Estimates		
	Actual \$	Amended \$	Original \$
Crown Land	4,161,738	4,906,600	5,134,100
Revenue - Provincial	(100,377)	(150,000)	(150,000)
Land Management and Development	896,739	981,000	1,067,200
Revenue - Provincial	(6,509,856)	(7,534,000)	(7,534,000)
Surveying and Mapping	673,266	800,200	886,000
Revenue - Provincial	(28,899)	(80,000)	(80,000)
Geomatics Agreements	131,611	500,000	500,000
Revenue - Federal	-	(265,000)	(265,000)
Revenue - Provincial	-	(235,000)	(235,000)
Total: Lands	(775,778)	(1,076,200)	(676,700)

Parks and Natural Areas

Parks and Natural Areas	7,461,528	7,549,200	6,892,700
Revenue - Federal	-	(2,500)	(2,500)
Revenue - Provincial	(13,402)	(5,000)	(5,000)
Park Development	198,246	226,100	318,800
Total: Parks and Natural Areas	7,646,372	7,767,800	7,204,000

Wildlife

Administration, Licensing and Operations	1,432,044	1,634,900	1,610,200
Endangered Species and Biodiversity	625,903	647,800	649,700
Stewardship and Education	1,685,350	1,735,600	1,440,400
Habitat, Game and Fur Management	1,856,409	2,039,400	2,394,500
Research	2,559,475	2,821,200	2,422,500
Cooperative Wildlife Projects	1,055,101	1,113,000	1,113,000
Revenue - Federal	(77,802)	(164,000)	(164,000)
Total: Wildlife	9,136,480	9,827,900	9,466,300
Total: Department	28,569,169	34,066,300	35,836,300

Appendix I - Lines of Business

The Department of Environment and Conservation provides the following lines of business.

Land Resources

The Department of Environment and Conservation:

- maintains map and air photo library services;
- maintains the Provincial Crown Lands Registry;
- investigates adverse land claims;
- reviews and inspects legal surveys;
- prepares legal documents of title for all dispositions of Crown land;
- produces and distributes topographic base maps for provincial departments and agencies;
- provides the geodetic reference system for legal and engineering surveys and topographic mapping;
- provides new aerial photography; a repository/archive of provincial aerial photography; and scanning/printing services;
- facilitates the official naming of geographical features and place names and maintains the joint federal/provincial data base;
- provides the central data-store and on-line base layers for GIS applications;
- provides standards and consultation services in geomatics;
- facilitates federal/provincial collaboration in geomatics (Building the Canadian Geospatial Data Infrastructure (CGDI) under the Canadian Geomatics Accord);
- produces Crown title maps;
- develops land use management plans;
- maintains the Land Use Atlas;
- enforces lands legislation and addresses incidents of unauthorized occupation of Crown land;
- coordinates within government the inter-departmental review of crown land development through the interdepartmental land use committee (ILUC);
- develops land use policy; and
- administers the leasing, sales and transfers of Crown land.

Provincial parks, ecological and wilderness reserves, natural areas, and Canadian Heritage rivers

The department is responsible for:

- the management and administration of provincial parks (the Newfoundland T'Railway Provincial Park is jointly managed by a special T'Railway Council);
- designation and management of wilderness and ecological reserves under the Wilderness and *Ecological Reserves Act*;
- development and implementation of environmental education programs within select

provincial parks and wilderness/ecological reserves;

- implementation of protection measures for Canadian Heritage Rivers in the province;
- negotiation of the land transfer to the federal government for National Parks; and
- issuance of various permits for provincial parks, ecological and wilderness reserves:
- wilderness and ecological reserves entry permits;
- provincial park daily / seasonal vehicle entry permits;
- commercial operator permits;
- commercial operator permits (tour boat);
- educational tour permits;
- scientific research permits;
- seabird ecological reserve special access permits; and
- seabird ecological reserve guide permits.

Wildlife and inland fish

The department protects, manages and conserves the province's biodiversity, wildlife resources and wildlife habitat. This includes:

- determining the status of species in the province according to the National Accord for the Conservation of Species at Risk to which the province is a signatory;
- developing and implementing stewardship agreements to support the recovery of species at risk;
- identifying, designating and developing recovery strategies for species at risk according to the *Endangered Species Act*;
- developing and implementing strategies for the conservation of biodiversity;
- designating and managing wildlife areas;
- administering the Salmonier Nature Park - a wildlife rehabilitation, interpretation and research facility;
- developing management plans for consumptive species which are then published in the annual hunting and trapping guide;
- issuing hunting and trapping licenses;
- developing policies and guidelines regarding wildlife utilization;
- issuing Newfoundland and Labrador Guide licenses;
- providing education, awareness and training programs such as firearm safety, hunter and trapper education courses;
- implementing the North American Waterfowl Management Plan, including providing assistance in the development of agreements to support wetland and coastal stewardship initiatives;
- developing long term landscape level planning to minimize conflicts between wildlife and other land uses;
- permitting for the non-consumptive use, possession, importation and export of wildlife and parts thereof;
- collecting scientific information to provide input into the sustainable management of wildlife, including inland fish populations and habitat; and
- utilizing education, awareness and stewardship programs and initiatives to foster appropriate attitudes, respect, behavior and appreciation towards our wildlife and habitat.

Environmental assessments

The department coordinates the provincial environmental assessment process for new development, which includes:

- accepting proposed undertakings;
- gathering background information concerning the environmental impacts of the proposals;
- analyzing information according to a well defined set of environmental assessment procedures;
- providing recommendations to the minister as to whether a project can proceed in an environmentally acceptable manner; and
- conducting select surveillance on projects released from the environmental assessment process.

Air, soil and water pollution

The department is responsible for prevention of pollution of the province's air, water and soil ecosystems, including:

- preparation and issuance of Certificates of Approval and licenses for:
 - industrial operations;
 - waste management systems (in collaboration with Government Services Centre);
 - waste dangerous goods transporters;
 - pesticide vendors, operators and applicators; and
 - heating oil storage tank inspectors;
- development of policies, guidelines, protocols, and regulations;
- development of training material and providing training;
- enforcement of Certificates of Approval, license conditions and legislation through:
 - inspections, other than those done by Government Services Centre;
 - the development of environmental monitoring programs in collaboration with industry;
 - audits of the environmental monitoring programs; and
 - audits of environmental laboratories;
- monitoring of criteria air contaminants;
- designation of contaminated sites and auditing risk assessments based on environmental site assessments;
- management of remediation of industrial and military contaminated sites that are the responsibility of government; and
- maintenance of a registry of contaminated sites.

Water resources

The department ensures that the province's water resources are protected, conserved and enhanced to provide the greatest possible sustainable benefits to the province. Responsibilities include:

- designation of protected water supply areas and protected wellheads;
- monitoring and analysis of chemical water quality of community water supplies;
- issuance of well driller licenses;
- inspection of water well structures in accordance with requirements of the *Well Drilling Regulations*;
- comprehensive training for municipal water operators of community water and wastewater systems;
- hydrologic modeling;
- investigation of water-related problems and complaints;
- overseeing inspections of dams;
- granting of water rights;
- maintenance of a water rights registry;
- issuance of permits for community water and sewage systems, extensions and alterations;
- monitoring and inspection of community water and wastewater systems;
- provision of technical assistance on community water and sewage, hydrology, hydraulics, and environmental design of water related structures;
- maintenance of various online water quality and quantity databases and GIS resources; and
- conducting studies on groundwater resources, flooding, water resource impacts and water use.

Horizontal Initiatives

The department has an important role in two key government-wide initiatives: government's response to climate change and sustainable development. These are evolving files and thus the programs and services offered by this department in these areas are also evolving. The programs and services that the public can expect from the department on these two initiatives are outlined below:

Climate Change

Specifically, the department is responsible for:

- implementation of the provincial Climate Change Action Plan and
- administration of the Newfoundland and Labrador Green Fund

Sustainable Development

The department is responsible for:

- strategic research on wildlife species, notably caribou, in support of the sustainable development initiative;
- provision of support for the Sustainable Development Round Table;
- the development of indicators and a provincial sustainability report as directed by the *Sustainable Development Act*;
- development of public education and outreach information related to sustainable development;

- development and coordination of graduate research projects through the Institute of Biodiversity and Ecosystem Science; and
- general promotion of sustainable development within government and the larger community.



